

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method to allocate bandwidth, which method is implemented at a central controller of an ad-hoc network, comprising:

allocating, at the central controller, a predetermined amount of bandwidth to a certain connection requiring a certain quality of service (QOS), wherein an owner of said certain connection is a requesting terminal which is a terminal of said ad-hoc network, and the predetermined amount of bandwidth is allocated based on a fixed capacity allocation;

freeing, at the central controller, a certain amount of the allocated predetermined amount of bandwidth as freed bandwidth, said freed bandwidth being a difference between the allocated predetermined amount of bandwidth and a needed amount of bandwidth, wherein said needed amount of bandwidth is determined at the requesting terminal and transmitted to the central controller, and does not exceed said predetermined amount of bandwidth; [[and]]

allocating said freed bandwidth to a non-QOS connection; and

when said requesting terminal transmits a request for a new needed amount of bandwidth greater than said needed amount of bandwidth, the new needed amount of bandwidth not exceeding said predetermined amount of bandwidth, immediately returning as much of the freed bandwidth as required so that said new needed amount of bandwidth is available to said requesting terminal to secure said certain QOS.

2. (Previously Presented) The method according to claim 1, further comprising:

allocating some or all of said freed bandwidth to another connection of the ad-hoc network, the another connection being a connection without a predetermined amount of allocated bandwidth.

3. (Previously Presented) The method according to claim 1, wherein said requesting terminal is operated by reserving a predetermined amount of bandwidth for providing a certain quality of service for said connection, and said method further comprises:

determining, in the requesting terminal, a filling status of a transmit queue which indicates how much sending data is in the transmit queue,

determining, in the requesting terminal, said needed amount of bandwidth as bandwidth needed in a next transmission frame, the needed amount of bandwidth depending on the filling status of the transmit queue and not exceeding said predetermined amount of bandwidth, and

transmitting, from the requesting terminal, said needed amount of bandwidth to said central controller.

4. (Currently Amended) A method to reserve bandwidth for a connection of an ad-hoc network, which method is implemented at a requesting terminal of said ad-hoc network, wherein the requesting terminal or [[the]] a central controller comprises a transmit queue for buffering sending data, and the requesting terminal is a terminal of the ad-hoc network with said central controller, the method comprising:

reserving, at the requesting terminal, a predetermined amount of bandwidth for providing a certain quality of service (QOS) for said connection, said predetermined amount of bandwidth allocated based on a fixed capacity allocation;

determining, at the requesting terminal, a filling status of the transmit queue which indicates how much sending data is in the transmit queue;

freeing, at the controller, a certain amount of the reserved predetermined amount of bandwidth as freed bandwidth, said freed bandwidth being a difference between the reserved predetermined amount of bandwidth and a needed amount of bandwidth, wherein said needed

amount of bandwidth is determined at the requesting terminal based on the filling status of the transmit queue, is transmitted to the central controller, and does not exceed said predetermined amount of bandwidth;

reserving said freed bandwidth to a non-QOS connection;

determining, at the requesting terminal, a new needed amount of bandwidth which is needed in a next transmission frame, the new needed amount of bandwidth being greater than said needed amount of bandwidth, depending on the filling status of the transmit queue, and not exceeding said predetermined amount of bandwidth; [[and]]

transmitting, from the requesting terminal, a request for said new needed amount of bandwidth to said central controller; and

immediately returning, to the requesting terminal, as much of the freed bandwidth as required so that said new needed amount of bandwidth is available to said requesting terminal to secure said certain QOS.

5. (Previously Presented) The method according to claim 4, further comprising:

operating said central controller by allocating a predetermined amount of bandwidth to a certain connection requiring a certain quality of service, wherein an owner of said certain connection is a requesting terminal which is a terminal of said ad-hoc network,

freeing a certain amount of the allocated predetermined amount of bandwidth as freed bandwidth, said freed bandwidth being the difference of said predetermined amount of bandwidth and a needed amount of bandwidth indicated by said owner, and

in case said owner requests a re-allocation of at least parts of the freed bandwidth, immediately re-allocating as much of the freed bandwidth as required so that said needed amount of bandwidth is available to said owner.

6. (Previously Presented) The method according claim 1, wherein
said ad-hoc network is an ad hoc network operated according to the European
Telecommunications Standard Institute High Performance Radio Local Area Networks/2
(ETSI HIPERLAN/2) standard.

7. (Currently Amended) A central controller of an ad-hoc network, comprising:
a QOS bandwidth allocation means for allocating a predetermined amount of
bandwidth to a certain connection with a certain quality of service (QOS) requirement, said
predetermined amount of bandwidth allocated based on a fixed capacity allocation, and a
requesting terminal being an owner of said connection;

a bandwidth freeing means for receiving a request signal sent out by said owner
indicating a needed amount of bandwidth and when a certain amount of bandwidth neither
exceeds the allocated predetermined amount of bandwidth nor said needed amount of
bandwidth, freeing the certain amount of bandwidth which is a difference between the
allocated predetermined amount of bandwidth and said needed amount of bandwidth, wherein
the needed amount of bandwidth is determined at the requesting terminal and transmitted to
the central controller; [[and]]

a non-QOS allocating means for allocating said freed bandwidth to a non-QOS
connection;

a request receiving means to receive a request for a new needed amount of bandwidth
greater than said needed amount of bandwidth, the new needed amount of bandwidth not
exceeding said predetermined amount of bandwidth; and

a bandwidth returning means for immediately returning as much of said freed certain
amount of bandwidth as required so that said new needed amount of bandwidth according to
said request signal is available to said owner to secure said certain QOS ~~when said certain~~

~~amount of bandwidth neither exceeds the allocated predetermined amount of bandwidth nor said needed amount of bandwidth.~~

8. (Previously Presented) The central controller according to claim 7, comprising
a transmit queue for buffering sending data, and
a monitoring means for monitoring a filling status of said transmit queue and
indicating said needed amount of bandwidth, which depends on the filling status of the
transmit queue, to said bandwidth freeing means or to said bandwidth re-allocation means.

9. (Previously Presented) The central controller according to claim 7, wherein
said ad-hoc network is operated according to the European Telecommunications
Standard Institute High Performance Radio Local Area Networks/2 (ETSI HIPERLAN / 2)
standard.

10. (Currently Amended) A requesting terminal of an ad-hoc network having a
connection with other terminals of the ad-hoc network or with a central controller of the ad-
hoc network, the connection requiring a certain quality of service (QOS) and therefore a
predetermined allocated amount of bandwidth, the requesting terminal comprising:

a transmit queue for buffering sending data;
a monitoring means for monitoring a filling status of said transmit queue and sending
out a request signal to said central controller indicating a needed amount of bandwidth, which
depends on the filling status of said transmit queue, the needed amount of bandwidth being
determined at the ~~request~~ requesting terminal and not exceeding the predetermined allocated
amount of bandwidth, wherein the predetermined amount of bandwidth is allocated based on
a fixed capacity allocation, wherein

the controller frees a certain amount of the reserved predetermined amount of bandwidth as freed bandwidth, said freed bandwidth being a difference between the predetermined amount of bandwidth and the needed amount of bandwidth,

the controller reserves said freed bandwidth to a non-QOS connection, and the requesting terminal further includes,

a determining means for determining a new needed amount of bandwidth which is needed based on a filling status of a next transmit queue, the new needed amount of bandwidth being greater than said needed amount of bandwidth, and not exceeding said predetermined amount of bandwidth, and

a transmitting means for transmitting a request for said new needed amount of bandwidth to said central controller, wherein

said controller immediately returns, to the requesting terminal, as much of the freed bandwidth as required so that said new needed amount of bandwidth is available to said requesting terminal to secure said certain QOS.

11. (Previously Presented) The central controller according to claim 10, wherein said ad-hoc network is operated according to the European Telecommunications Standard Institute High Performance Radio Local Area Networks/2 (ETSI HIPERLAN /2) standard.

12. (Previously Presented) The method according to claim 4, wherein said ad-hoc network is operated according to the European Telecommunications Standard Institute High Performance Radio Local Area Networks/2 (ETSI HIPERLAN / 2) standard.

13. (Previously Presented) The method according to claim 1 or 2, wherein said allocated predetermined amount of bandwidth corresponds to a fixed reserved amount of bandwidth.

14. (Canceled)

15. (Previously Presented) The method according to claim 1 or 2, wherein the freed bandwidth is re-allocated in a next transmission frame.

16. (Previously Presented) The method according to claim 5, further comprising:
allocating some or all of said freed bandwidth to another connection of the ad-hoc network, the another connection being a connection without a predetermined amount of allocated bandwidth.

17. (Previously Presented) The central controller of an ad-hoc network according to claim 7, wherein

the certain amount of bandwidth is allocated to another connection of the ad-hoc network, the another connection being a connection without a predetermined amount of allocated bandwidth.